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(54) Title: METHODS AND COMPOSITIONS FOR INFERRING EYE COLOR AND HAIR COLOR

(57) **Abstract:** Methods for inferring eye color or eye shade of an individual from a nucleic acid sample of the individual by detecting the nucleotide occurrence of an eye color related single nucleotide polymorphism (SNP) as set forth in SEQ ID NOS:1 to 7 and, optionally,, SEQ NOS:8 to 10 and/or SEQ ID NOS:26 to 48, are provided. Also provided are methods for inferring hair color or hair shade of an individual from a nucleic acid sample of the individual by detecting the nucleotide occurrence of a hair color related SNP as set forth in SEQ ID NOS:11 to 25. Methods for inferring eye color/shade and/or hair color/shade of an individual from a protein sample of the individual by detecting an amino acid residue encoded by the nucleotide occurrence of an eye color related SNP or a hair color related SNP, respectively, also are provided. In addition, compositions, including oligonucleotides and antibodies, useful for practicing such methods are provided, as are kits for performing the methods.



WO 2005/079331 A2